3/10/87 U8960-2A

uebr

Utah Economic and Business Review

Volume 46
Numbers 10 and 11
October – November 1986

BEBR

graduate school
of business
bureau of economic and
business research
university of utah

The Economic Impact of the University of Utah's Health Science Center

Jan Crispin, Research Analyst

I. Introduction

This article has been summarized from a study on the economic impact of the University of Utah Health Sciences Center -- commonly referred to as the Medical Center-- on the Utah economy.[1] The research has endeavored to demonstrate the economic value of HSC in terms of increased employment and income levels of Utah residents; however, the qualitative benefits of HSC are equally important and have also been acknowledged.

A brief discussion of Utah's health services industry has been included. The intent was twofold; first, to demonstrate the economic importance of this industry to the state; and second, to show HSC's role in a dynamic, expanding health care industry.

Utah's Health Care Industry

Nationally, Americans purchased almost $387 billion worth of health services in 1984 -- up more than $32 billion from the previous year. While growth in the purchase of such services has begun to show signs of slowing (increasing only 9.0% from 1983 to 1984), over a 10-year span ending in 1984, national health care expenditures climbed at a compound rate of 11.85 percent per year. Although much smaller in scale, the health services industry in Utah is equally active, easily exceeding $2 billion in 1985, and estimated to be growing approximately 8 to 9 percent per year.

According to information published by the Utah Department of Employment Security over 51,000 Utah residents, earning approximately $891.8 million, were employed in some type of health-related business during 1985 (Table 1). Represented in this employment figure were people who either provided health care services directly to the public, or who provided goods or services related to the health care industry. For example, those employed at pharmacies, medical supply houses and health insurance agencies have been included, as they too are an intricate part of the state's health care industry.

---

[1] Jan Elise Crispin and Boyd Fjeldsted, The Role of the University of Utah, Health Sciences Center in Utah's Health Care Industry, December 1986, Bureau of Economic and Business Research, Graduate School of Business, University of Utah.

Table 1

Employment and Earnings for
Utah's Health Care Industry, 1985

	Employment	Total Wages
Private Industry	43,845	$ 744,449,504
Health Services	33,930	572,755,793
Drugs, Proprietaries, and Sundries	981	23,494,072
Drug Stores and Proprietary Stores	4,660	65,843,206
Drugs	168	3,285,936
Medical Instruments and Supplies	3,361	63,420,577
Optical Instruments and Lenses	32	718,243
Medical Service and Health Insurance	716	14,791,543
Pension, Health and Welfare Funds	7	140,134
Federal Government	1,764	34,368,379
State Government	2,709	42,000,647
Local Government	1,420	16,794,534
Education	1,710	54,230,768
Total	51,448	$ 891,843,832

Source: Utah Department of Employment Security, Annual Report, 1985; Vol.III, Labor Market Information, Table 3; Utah Department of Employment Security, unpublished data.

People who provided health care services directly to the public comprised the largest group included in this figure -- nearly 34,000. Employment in this group alone increased slightly more than 7 percent over 1984 figures, while earnings increased almost 10 percent.

The Impact of Health Services on State Personal Income

The importance of the health service industry in Utah can be shown by examining other measures as well, such as the industry's contribution to state personal income figures. Over the past five years, health services as a component of state personal income has hovered between 4.0 and 4.4 percent, effectively keeping pace with increases in state personal income. While the importance of this may not be overtly apparent, a closer examination of the role that the service sector plays in providing personal income to Utah residents may prove insightful. Over the years, services have provided an increasingly large portion of state personal income (15% in 1985 compared with 13% in 1980). In 1985, the service component of state personal income reached $2.6 billion, and total income derived from health services was $765 million, or approximately 29 percent (Table 2).

Table 2

Health Services as a Component of State Personal Income
1980 - 1985
(thousands of dollars)

	1980	1981	1982	1983	1984	1985
Total Personal Income	$11,683.2	$13,068.9	$14,024.4	$14,897.5	$16,272.3	$17,278.6
Income Derived from Services	1,520.4	1,731.6	1,894.6	2,063.8	2,346.6	2,600.2
Income Derived from Health Services	467.7	545.6	621.8	648.7	695.9	765.2
Health Services as a Percentage of Services	30.8	31.5	32.8	31.4	29.7	29.4
Health Services as a Percentage of Personal Income	4.0	4.2	4.4	4.4	4.3	4.4

Source: Bureau of Economic Analysis, Quarterly State Personal Income, 1980:I-1982:IV, (1985 Benchmark revisions), U.S. Documents, BEA, REMD (BE-55); Washington, D. C.

Utah's Biomedical Sector

One of the most interesting components of the state's health services industry is the high technology biomedical sector. Included within this sector are firms on the cutting edge of medical technology, constantly searching for medical developments that will enhance the quality of life for people throughout the world. In a sense, Utah has become somewhat of a "bionic valley" due to the large number of biomedical and medical supply firms that have been established within the state. A list of Utah's biomedical research and medical supply firms with 10 or more employees is provided in Table 3.

Utah's high crude birth rate, and low mortality rates will translate into an increase in demand for health care services. Indeed, the health services industry in Utah should continue to be a viable, dynamic, and growing force that is expected to expand in the upcoming years.

University of Utah Health Sciences Center

Established in 1975, HSC serves as an umbrella for the health-related components of the University of Utah, namely the Colleges of Health, Nursing and Pharmacy, School of Medicine, University of Utah Hospital, Spencer S. Eccles Health Sciences Library, Student Health Service and Regional Dental Education Program. The administrative function of HSC is to enhance communication and coordination between these various health-related components of the University of Utah. Consequently, this analysis does not identify the impact of HSC per se, but rather the impact of the aforementioned components of HSC. HSC, in the context of this study, refers to an integrated unit comprised of the health-related components of the University of Utah. The Spencer S. Eccles Health Sciences Library, Student Health Service and Regional Dental Education Program have been excluded from a detailed analysis of HSC due to inadequate financial information. It is reasonable to assume that the quantitative impacts of these organizations are minimal due to the composition of their funding sources and low levels of direct employment.

An examination of HSC's employment and payroll only hints at the Center's gross magnitude. HSC presently employs over 3,600 people and has a direct annual payroll that exceeds $98 million. Although HSC is part of the University of Utah, if considered as a separate entity, it would rank as one of the top 25 employers in the state. In addition, HSC has exerted a special economic, social, and cultural impact on the state's economy in various ways, many of which are not obvious nor measurable. For example, the quality of health care in the state has been enhanced by the existence of the University Hospital -- a well-respected teaching hospital.

Methodology

In order to estimate the direct, or primary impacts of HSC, each component of HSC was requested to provide financial and employment information -- detailing such items as wage and salary expenses, employment figures, purchases from Utah firms, and sources and levels of revenue. For the

Table 3
Biomedical Research and
Medical Supply Firms
(10 or more employees)

Firm	Employment
American Laser Corporation	80
BSD Medical Corporation	30
BSL Technology	50
Ballard Medical Products	95
Bio-Logics Products, Inc.	40
Becton Dickinson Corporation	150
Bunnell, Inc.	10
Catheter Technology Corporation	20
DNA Medical, inc.	13
Delmed	172
Deseret Medical, Inc.	1,800
Deseret Research	150
Gull Laboratories	43
HGM Medical Laser Systems, Inc.	50
Healthtek	65
Hyclone Labs, Inc.	100
Medicorp, Inc.	12
Microbiological Research Corporation	25
Motion Control	30
Multi-Technology, Inc. (MTI)	15
OEC Diasonics	70
Porphyrian Products, Inc.	15
Research Industries Corporation	20
Richard Labs of Utah	10
Sorenson Research	800
Sambion, Inc.	72
Tenet Information Systems	25
Utah Bioresearch, Inc.	21
Utah Research and Development, Inc.	77
Wescor, Inc.	50

Source: Bureau of Economic and Business Research, Graduate School of Business, University of Utah, Medical Supply and Biomedical Research Target Industry Study, April 1986.

most part, a breakdown of the respective operating budgets proved sufficient. In every case, care was taken to use only purchases from Utah firms in estimating the indirect and induced impacts. In some instances a certain amount of conjecture was required to arrive at a valid estimate.

The indirect and induced impacts were calculated with Input/Output analysis and Utah-specific I-O Tables. This analysis is a widely accepted method for determining economic activity through the use of weighted coefficients applied to direct expenditures. The I-O Tables used in the derivation of these secondary impacts were produced for Utah by Boyd Fjeldsted of the Bureau of Economic and Business Research. The coefficients provided in the I-O Tables take into effect the impact on production of goods and services derived from the expenditures arising from direct wages and salaries paid to HSC employees. Thus, the model is capable of determining not only the indirect impact of HSC procurement patterns, but also the induced impacts that result from the purchases of HSC employees (and the employees of HSC suppliers). Trade margin coefficients were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis.

In order to provide an accurate picture of HSC's overall impact, a critical distinction had to be made between export activities and reallocation of existing output. Export activities reflect the amount of additional income to Utah households and increased employment levels that result from exporting a good or service from the state. In the case of the School of Medicine and Colleges of Health, Nursing and Pharmacy, there are infusions of spending in the form of out-of-state tuition payments and federal research and training grants. For the University of Utah Hospital, infusions of spending occur in the form of payments by out-of-state patients. Therefore, the total of indirect and induced impacts were multiplied by the ratio of the sum of these items to aggregate funding in order to arrive at a well-measured indirect impact of HSC.

Thus, the sum of the direct, indirect and induced impacts provides an estimation of the impact on Utah resident employment levels and household earnings.

Primary and Secondary Impacts of HSC

HSC has its most immediate impact on the Utah economy through its expenditures for wages and salaries and direct employment. The income and employment figures reflect impacts for fiscal year 1985-1986.

HSC's Compensation Impact

During FY 1985-1986, HSC purchased slightly more than $115 million of goods and services from Utah businesses. Of this amount, direct wage and salary payments were the single largest expenditure item, totaling $98,565,300 -- approximately 11 percent of total wage and salary payments in the state's health services sector. As a result of HSC's purchases from Utah firms -- taking into consideration only that portion that reflected an infusion of spending -- an additional $16,410,082 in compensation was generated. This signified a compensation multiplier of approximately 1.17. The income multiplier reflects the magnitude of the relationship between the direct wage and salary payments by HSC and the total income generated as a consequence of those payments. The income multiplier effect will vary year to year depending upon the industrial composition of HSC purchases. Nonetheless, based on information provided by HSC, purchases of labor (or wages and salaries paid to HSC employees) in FY 1985 totaled $98.5 million. These direct payments generated an additional $16.4 million resulting in a total earnings impact of $114.9 million during that time period (Figures 1, 2, 3).

Although the University of Utah Hospital has received more recognition than any other component of HSC, predominately as a result of the widely-acclaimed artificial heart transplant, the School of Medicine actually exerted the most significant impact. The reason for this is threefold. First, with the exception of the hospital, the School of Medicine had the largest budget of all HSC components and purchased a significant amount of goods and services from Utah businesses. Second, the school had a nonresident population of approximately 47 students, or 28 percent of total enrollment; and finally, the school received a large amount of federal research funds. In fact, the School of Medicine ranked in the top third of U.S. medical schools in terms of funded research in 1984-1985. Since federal research monies represent an infusion of spending into Utah, a high level of such funds will tend to produce a higher level of impact (Table 4).

Moreover, the absolute impact of the hospital is possibly greater than the $114 million shown in Figure 3. For instance, without the hospital, Utah residents needing highly specialized care may be forced to leave the state in order to obtain the necessary medical assistance. Last year, the hospital treated more than 11,000 patients -- many of whom required medical care over and above that available in surrounding hospitals due to the unusual nature of the disease or

Table 4

University of Utah Health Sciences Center
Federal Training Grants and Funds, 1985-1986

Component	Operating Budget	Federal Funds and Train. Grants	Percent of Operating Budget
College of Pharmacy	$ 6,794,171	$ 2,853,552	42
College of Nursing	4,612,876	1,487,594	32
College of Health	2,261,482	203,533	9
School of Medicine	79,759,073	30,800,091	38
U of U Hospital	91,827,918	--	--

Source: Calculated by the Bureau of Economic and Business Research, University of Utah, based on information provided by the Health Sciences Center.

illness. Although in the present analysis, payments to the hospital by Utah patients have been excluded in the derivation of total impact, in the absence of the University Hospital, these patients would represent a spending loss in the economy as their payments for medical services would be received by a hospital outside the state. Even assuming that existing hospitals in Utah could assimilate a portion of the University Hospital's functions, teaching hospitals historically undertake cases that are "exotic," unusual, and complicated and are most probably beyond the capabilities of community hospitals.

HSC Employment Multiplier Effect

The employment effect of HSC can be determined by using the above described methods. Average annual employment at HSC during 1985-1986 was approximately 3,665. When the indirect and induced impacts are included, total employment generated by

Figure 1
Impact on Income
1985-1986
Direct Labor Purchases
$98,565,300

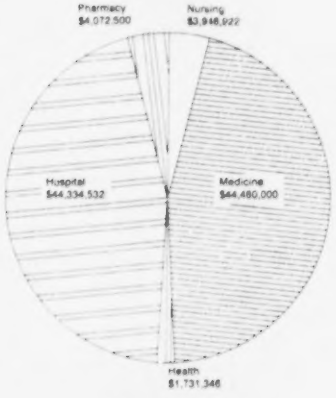


Figure 2
Impact on Income
1985-1986
Indirect and Induced Earnings
$16,410,082

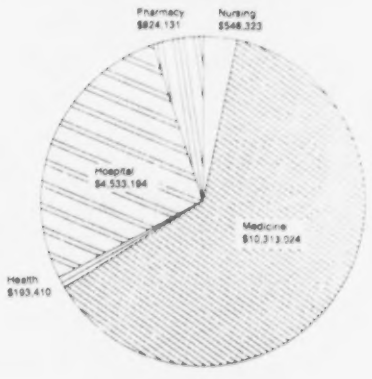


Figure 3
Impact on Income
1985-1986
Total Earnings Generated
$114,975,382

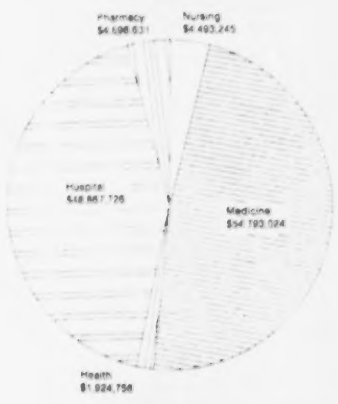


Figure 4
Impact on Employment
1985-1986
Direct Employment
3,665

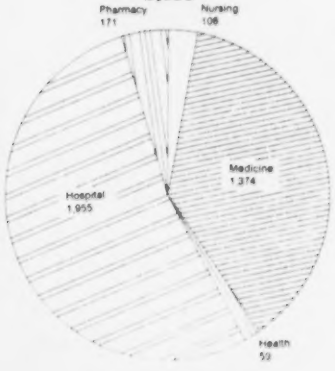


Figure 5
Impact on Employment
1985-1986
Indirect and Induced Employment
832

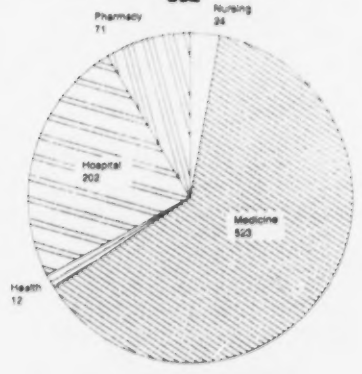
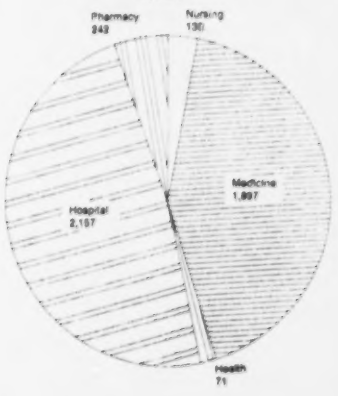


Figure 6
Impact on Employment
1985-1986
Total Employment Generated
4,497



HSC's presence in the state increased to 4,497, reflecting a multiplier of about 1.22 (Figures 4, 5, and 6). These employment figures denote full time or full-time equivalent employment in the Utah economy.

Additional Employment Impacts

The presence of HSC in Utah has also resulted in another type of direct benefit, that is, the emergence and development of medical supply and biomedical spin-offs as the consequence of its quality medical research. Many colleges at the University of Utah have a unique working relationship which has culminated in the development of such organizations as the Institute for Biomedical Design, Biomaterials Profiling Center, and the Biomedical Engineering Center for Polymeric Implants. These organizations take advantage of the specialized talents of professors, students and staff, crossing traditional college boundaries, to bring new insight to bioengineering advancements.

In many instances, the novel research being performed within these colleges and organizations has resulted in the development of spin-off companies. To date, 12 medically-oriented companies have been founded as a direct result of research undertaken in part at HSC. While it is difficult to pinpoint the employment levels of these spin-offs, based on a survey of medical supply and biomedical firms in Utah completed by the Bureau of Economic and Research in 1986, it was estimated these companies provide jobs for about 2,000 Utah residents (Table 5).

Table 5

Medical Companies Founded upon University of Utah Technology

Company	Employment
Deseret Medical, Inc. (Division of Becton Dickinson)	1,800
Deseret Research	150
Symbion, Inc.	72
Motion Control	30
Research Industries Corporation	20
Biomaterials International, Inc.	17
Zinetics Medical Technology Corporation	5
Vascular International	3
Anesta Corporation	1
Biomedical Laser Industries	1
Life Extenders Corporation	1
Physiosensors, Inc.	1
Total	2,101

Source: Bureau of Economic and Business Research, Graduate School of Business, University of Utah, Medical Supply and Biomedical Research, Target Industry Study, April 1986.

Implicit Impacts of HSC

The overall impact of HSC on the local economy is not limited to the quantitative benefits discussed in the previous section. HSC also plays a unique role in the state's economy that is less obvious, albeit as important.

Quality Health Care

Academic health centers (such as HSC) have made enormous contributions in upgrading the quality of health care in the United States since WWII. By successfully carrying out their research and teaching missions, academic health centers have placed health care in the United States as the best in the world. HSC is no exception. The quality of health care in Utah is arguably better with the presence of the University Hospital as teaching hospitals traditionally attract some of the best doctors in the profession, who in turn bring a certain level of prestige to the area. In fact, the hospital and medical school serve as a major referral, research, and training center for the intermountain region.

One example of the calibre of quality care available to Utah residents is the University of Utah's Burn and Trauma Center, one of seven such efforts funded by the National Institutes of Health. The Center is a regional burn and trauma center that served almost 200 acute burn patients during the past year. The Center provides a vital service for patients with acute or serious burns and the resulting trauma that so often accompanies such accidents. These are patients who would otherwise seek help from a facility located outside the state.

HSC's Teaching and Research Missions

HSC combines research and teaching to provide health-related services that are critical in advancing the quality of health care throughout the country. Through the Graduate Medical Education program at HSC, physicians, dentists, pharmacists, nurses and other health care professionals are trained for careers in the health field. Under this program the hospital provides a clinical setting for newly graduated medical students to gain expertise in the practice of medicine. Typically, the hospital funds approximately 32 to 35 percent of the house staff positions in the state–for 1987 this equates to 137 of the 429 positions.

The University of Utah is fast becoming one of the leaders in genetics research, largely due to breakthroughs in medical technologies under the direction of HSC. This research brings in millions of dollars of federal research grants each year, a great deal of which is spent purchasing products from Utah firms. Just as important however, is the worldwide recognition the state receives as a result of these medical developments. The excellence of HSC's research programs coupled with the high calibre of the faculty and staff was a deciding factor in the decision to build the $19 million, eight-story research and basic science building in Utah by the Howard Hughes Medical Institute this past year.

Development of Medical Technologies

The most prominent example of new technologies developed at the University has been the artificial heart transplant at the University Hospital which brought national and international acclaim to the state. Recently, the Department of Surgery at the School of Medicine announced it was seeking FDA approval for the newly developed "Utah 100" heart-- a modification of the original Jarvik heart -- which should decrease the number of complications arising from transplants of this type. However, this is but one example of the numerous technological advances stemming from HSC's research. Other items include a wearable artificial kidney, an artificial eye, an artificial ear and an artificial arm and hand; all developed to increase the quality of life for today's medical patients.

Summary

The health care sector in Utah is a thriving, $2 billion per year industry growing approximately 8 to 9 percent annually. More than 51,000 people earning about $891 million were involved in one of Utah's many facets of health care during 1985 -- a figure that is also growing each year. For instance, the number of people who actually provide health care services to the public has been increasing at an annual compound rate of 4.6 percent since 1980. Conservative estimates indicate that this growth pattern will continue in Utah as the demand for health care services across the nation continues to grow.

HSC is just one component of the state's broad health care industry. In 1985, HSC's activities in the state resulted in the direct employment of 3,665 people -- roughly 7 percent of total health service employment. As a result of this direct employment, an additional 832 people were employed by firms providing goods or services to HSC. Therefore, total employment of Utah residents attributable to HSC's presence in Utah reached 4,497 reflecting a multiplier effect of 1.22.

During the same time period, HSC purchased $115 million worth of goods and services from Utah businesses. Almost 80 percent of these expenditures, or about $98 million was spent on direct wage and salary payments to Utah residents -- about 11 percent of total health service sector earnings. The additional income to Utah residents arising from HSC activities in the state totaled $16 million, for a total income impact in 1985-1986 of more than $114 million, and a multiplier effect of 1.17.

An added benefit of HSC stems from the innovative medical research currently underway. Not only did HSC bring in approximately $34 million in research grants to the state during 1985-1986, but over the years, no less than 15 new biomedical and medical supply firms have spun-off from research undertaken by the Center.

The implicit benefits arising from HSC's presence in the state are of equal importance. Many of these benefits are really quality of life issues which are difficult, if not impossible, to measure. The quality of life in Utah is presumably better since the quality of health care in the state is augmented and enhanced by the unique medical technologies being developed by HSC, especially the medical advances being made at the University of Utah Hospital and School of Medicine. These medical advances have resulted in higher life expectancy rates, lower mortality rates, and less sickness and disease in the surrounding community. How much of this is actually the direct result of HSC is subject to debate; however, most certainly the high calibre of medical research being done at HSC has thrust the state into a prominent position worldwide as an area of medical expertise.

Utah Business Statistics

UTAH DATA	Sept. 1985	Sept. 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,321[r]	17,943	3.6%	17,872.6	16,990.0	5.2%
New Corporations (no.)	411	428	4.1%	466.5	445.4	4.7%
New Car, Truck and Motorhome Sales (no.)	6,928	8,463	22.2%	6,331.6	6,570.8	-3.6%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	50.20	56.50	12.5%	55.2	56.3	-2.0%
Lambs (cwt)	69.30	65.00	-6.2%	64.5	62.4	3.4%
Milk Wholesale (cwt)	11.60	12.00	3.4%	11.7	12.5	-6.8%
Alfalfa Hay, Baled (per ton)	59.00	62.00	-10.1%	69.9	73.3	-4.6%
Cattle Slaughtered (live weight) (thous. of lbs.)	37,280	38,518	3.3%	36,015.0	32,805.3	9.8%
Construction						
Total Construction (thous. of dol.) [1]	128,000	141,897	10.9%	130,813.2	129,858.3	0.7%
Residential	67,400	59,408	-11.9%	57,850.9	61,291.7	-5.6%
Nonresidential	40,500	37,974	-6.2%	48,091.2	41,475.0	16.0%
Public Works and Utilities	20,100	44,515	121.5%	25,112.8	27,050.0	-7.2%
Total Permit Construction (thous. of dol.) [2]	125,518.0	105,867.2	-15.7%	119,736.8	115,655.4	3.4%
Residential	58,947.5	63,416.3	7.6%	64,401.8	57,212.1	12.6%
Nonresidential	50,441.8	29,059.0	-42.4%	41,073.6	43,790.1	-6.2%
Additions, Alterations and Repairs	16,128.7	13,391.9	-17.0%	14,281.9	14,353.1	-0.5%
New Dwelling Units (no.)	1,080	1,079	-0.1%	1,273.5	1,290.3	-1.3%
Employment						
Civilian Labor Force (thous.)	776.1	770.7	-0.7%	753.1	741.1	1.6%
Total Employed Persons	735.4	729.0	-0.9%	710.3	694.2	2.3%
Unemployed Persons	40.7	41.7	2.5%	42.4	47.0	-9.8%
Percent Total Labor Force	5.2	5.4	3.8%	5.6	6.4	-11.7%
Employees on Nonagricultural Payrolls (thous. of jobs)	633.2	633.9	0.1%	633.9	619.8	2.3%
Manufacturing	96.3	91.8	-4.7%	92.9	95.9	-3.1%
Mining	9.2	7.7	-16.3%	8.4	10.5	-19.5%
Contract Construction	39.6	36.0	-9.1%	34.7	36.5	-5.0%
Transportaion, Communication and Utilities	37.0	37.7	1.9%	37.2	36.6	1.8%
Wholesale Trade	36.1	36.1	0.0%	35.8	35.7	0.4%
Retail Trade	113.9	118.7	4.2%	115.8	111.0	4.4%
Finance, Insurance and Real Estate [3]	31.3	33.3	6.4%	32.5	30.8	5.6%
Services	133.8	140.4	4.9%	138.6	128.4	6.4%
Federal Government [4]	39.6	40.6	2.0%	40.4	38.6	4.6%
State Government [4]	33.7	37.5	11.3%	37.7	35.4	6.4%
Local Government [4]	62.6	64.1	2.4%	62.8	60.7	3.6%
Average Weekly Hours [5]						
Manufacturing	40.5	41.1	1.5%	40.5	40.1	0.9%
Mining	42.5	44.1	3.8%	44.0	44.3	-0.7%
Wholesale Trade	35.4	37.2	5.1%	36.1	35.9	0.5%
Retail Trade	28.5	28.6	0.4%	28.1	28.6	-2.0%
Amount of Unemployment Compensation (thous. of dol.)	5,121.4	6,593.0	28.7%	7,942.3	6,879.6	15.4%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,398.9	2,403.7	0.2%	2,347.8	2,337.1	0.5%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	59,412.7	56,340.9	-5.2%	124,651.3	122,363.7	1.9%
Sales and Use Tax	2,238.4	4,508.9	101.4%	45,435.0	45,016.3	0.9%
Motor Fuel Tax	7,160.9	7,637.6	6.7%	7,637.8	7,700.2	-0.8%
Individual Income Tax	31,949.1	33,639.1	5.3%	37,980.5	36,867.9	3.0%
Corporation Franchise Tax	2,156.0	964.2	-55.3%	5,537.6	4,600.4	20.4%
Production						
Net Electric Power Utilized (mil. of kwh)	1,086.6	NA	NA	NA	1,110.3	NA
Crude Oil to Refineries (thous. of bbls.)	4,133.7	4,034.7	-2.4%	3,668.9	4,200.6	-12.7%
Crude Oil (thous. of bbls.)	3,564.9	2,942.5	-17.5%	3,356.5	3,308.0	1.5%
Natural Gas (mil. of cu. ft.)	18,174.9	17,946.8	-1.3%	18,939.7	16,679.1	13.6%
Coal (thous. short tons)	1,143	875[p]	-23.4%	1,041.0	990.1	5.1%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	678,686	777,938	14.6%	810,910.2	724,993.4	11.9%
Highway Traffic Count Across State Lines	40,737	42,217	3.6%	35,973.2	34,399.3	4.6%
Transient Room Taxes (thous. of dol.)	164.6	(146.7)	-189.1%	425.7	407.9	4.4%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,188.1	1,306.3	9.9%	1,087.6	969.6	12.2%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	463,048	474,690	2.5%	469,900.0	459,066.4	2.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	165,039	169,711	2.8%	167,341.4	165,431.1	1.2%
Electric Customers (Residential)	406,966	452,253	11.1%	442,896.1	429,815.2	3.0%
Electric Customers (Commercial)	38,321	44,535	16.2%	43,292.3	41,696.1	3.8%
Natural Gas Customers (Residential & Commercial)	416,650	429,799	3.2%	432,400.5	420,091.6	2.9%
Natural Gas Customers (Industrial)	574	573	-0.2%	567.9	546.7	3.9%

Utah Business Statistics

UTAH DATA	Aug 1985	Aug 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	52.9	53.0 fo	0.2%	52.1	50.7	2.9%
Unemployment Rate	3.1	4.0 r	29.0%	3.7	3.9	-4.3%
Auth. Permit Construction (thous. of dol.)	24,463.0	23,535.2	-3.8%	16,620.7	11,476.7	44.8%
New Dwelling Units (no.)	526	388	-26.2%	229.9	155.3	48.1%
Postal Receipts (thous. of dol.)	301.0	317.2	5.4%	323.7	322.6	0.4%
Electric Customers (Residential)	33,654	34,525	2.6%	33,848.8	32,989.7	2.6%
Electric Customers (Commercial)	2,492	2,540	1.9%	2,508.8	2,456.3	2.1%
Natural Gas Customers (Residential)	43,857	46,087	5.1%	45,550.2	43,536.0	4.6%
Natural Gas Customers (Industrial)	58	51	-12.1%	49.9	48.2	3.6%
Telephone Lines in Service (Mt. Bell)(Residential)	50,219	53,411	6.4%	51,754.9	40,618.8	27.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,671	10,209	5.6%	9,940.1	7,746.3	28.3%
Salt Lake County						
Non-Ag. Employment (thous.)	327.7	336.3 fo	2.6%	331.6	322.4	2.9%
Unemployment Rate	5.1	4.8 r	-5.9%	5.3	5.8	-7.9%
Auth. Permit Construction (thous. of dol.)	62,482.7	65,040.5	4.1%	62,275.1	59,869.7	4.0%
New Dwelling Units (no.)	546	461	-15.6%	579.8	702.9	-17.5%
Postal Receipts (thous. of dol.)	6,449.8	6,555	1.6%	7,419.9	6,421.5	15.5%
Electric Customers (Residential)	221,252	230,145	4.0%	229,105.0	219,438.3	4.4%
Electric Customers (Commercial)	18,417	19,385	5.3%	19,076.5	18,304.1	4.2%
Natural Gas Customers (Residential)	202,569	209,983	3.7%	210,324.8	203,139.3	3.5%
Natural Gas Customers (Industrial)	264	256	-3.0%	258.0	248.9	3.6%
Telephone Lines in Service (Mt. Bell)(Residential)	216,813	222,680	2.7%	220,831.2	215,062.5	2.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,241	107,914	0.6%	107,207.5	108,405.8	-1.1%
Utah County						
Non-Ag. Employment (thous.)	68.3	68.0 fo	-0.4%	71.5	70.0	2.1%
Unemployment Rate	5.6	5.1 r	-8.9%	5.8	6.7	-14.1%
Auth. Permit Construction (thous. of dol.)	11,130.3	6299.6	-43.4%	10,379.9	12,700.7	-18.3%
New Dwelling Units (no.)	118	60	-49.2%	100.8	79.6	26.6%
Postal Receipts (thous. of dol.)	839.0	813.9	-3.0%	913.1	841.6	8.5%
Electric Customers (Residential)	47,561	50,032.0	5.2%	NA	47,946.9	NA
Electric Customers (Commercial)	5,673	6,275.0	10.6%	NA	5,644.0	NA
Natural Gas Customers (Residential)	57,881	58,927	1.8%	59,241.8	58,281.8	1.6%
Natural Gas Customers (Industrial)	71	73	2.8%	71.0	68.3	3.9%
Telephone Lines in Service (Mt. Bell)(Residential)	58,960	59,976	1.7%	61,810.7	60,904.6	1.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,671	15,940	8.6%	15,561.6	14,658.9	6.2%
Weber County						
Non-Ag. Employment (thous.)	57.2	58.8 fo	2.8%	100.4	56.1	79.1%
Unemployment Rate	4.6	5.4 r	17.4%	5.3	6.3	-15.4%
Auth. Permit Construction (thous. of dol.)	8,954.0	19,781.6	120.9%	9,359.8	8,194.2	14.2%
New Dwelling Units (no.)	81	92	13.6%	95.2	67.3	41.5%
Postal Receipts (thous. of dol.)	572.3	528.3	-7.7%	605.4	556.1	8.9%
Electric Customers (Residential)	50,544	51,790	2.5%	51,408.5	50,444.8	1.9%
Electric Customers (Commercial)	4,668	4,745	1.6%	4,708.1	4,578.2	2.8%
Natural Gas Customers (Residential)	46,355	47,466	2.4%	47,648.2	46,722.9	2.0%
Natural Gas Customers (Industrial)	85	87	2.4%	86.9	77.8	11.8%
Telephone Lines in Service (Mt. Bell)(Residential)	44,874	45,541	1.5%	45,301.4	44,815.7	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,431	10,642	1.9%	10,546.2	10,283.7	2.6%

r Revised fo Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions
5 Contract construction data are no longer available

Utah Business Statistics

UTAH DATA	Aug 1985	Aug 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,321[r]	17,943	3.6%	17,820.8	16,902.5	5.4%
New Corporations (no.)	471	347	-26.3%	485.1	441.6	9.3%
New Car, Truck and Motorhome Sales (no.)	7,540	6,807	-9.7%	6,203.7	6,489.3	-4.4%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	49.80	57.20	14.9%	54.7	57.0	-4.1%
Lambs (cwt)	66.90	66.00	-1.3%	64.8	61.6	5.3%
Milk Wholesale (cwt)	11.20	11.40	1.8%	11.7	12.6	-7.8%
Alfalfa Hay, Baled (per ton)	60.00	64.00	6.7%	70.5	73.5	-4.1%
Cattle Slaughtered (live weight) (thous. of lbs.)	36,339	37,276	2.6%	35,911.8	31,756.1	13.1%
Construction						
Total Construction (thous. of dol.)[1]	204,700	125,329	-38.8%	129,655.1	127,516.7	1.7%
Residential	69,600	63,013	-9.5%	58,516.9	60,591.7	-3.4%
Nonresidential	68,200	44,730	-34.4%	48,301.7	39,875.0	21.1%
Public Works and Utilities	66,900	17,586	-73.7%	23,078.2	27,008.3	-14.6%
Total Permit Construction (thous. of dol.)[2]	134,099.5	129,584.5	-3.4%	121,374.3	115,773.1	4.8%
Residential	71,614.6	74,404.0	3.9%	64,029.4	56,604.4	13.1%
Nonresidential	41,887.5	30,496.9	-27.2%	42,855.5	44,672.9	-4.1%
Additions, Alterations and Repairs	14,597.1	24,647.6	68.9%	14,510.0	13,995.8	3.7%
New Dwelling Units (no.)	1,536	1,150	-25.1%	1,273.6	1,292.2	-1.4%
Employment						
Civilian Labor Force (thous.)	757.3	761.3	0.5%	753.5	738.0	2.1%
Total Employed Persons	718.2	721.0	0.4%	710.9	690.8	2.9%
Unemployed Persons	39.1	40.3	3.1%	42.3	47.2	-10.3%
Percent Total Labor Force	5.2	5.3	1.9%	5.6	6.4	-12.6%
Employees on Nonagricultural Payrolls (thous. of jobs)	624.2	632.9	1.4%	633.8	618.1	2.5%
Manufacturing	96.7	91.3	-5.6%	93.3	95.8	-2.6%
Mining	9.1	7.6	-16.5%	8.6	10.7	-20.0%
Contract Construction	40.3	37.0	-8.2%	35.0	36.5	-4.3%
Transportaion, Communication and Utilities	36.9	37.8	2.4%	37.1	36.5	1.6%
Wholesale Trade	36.2	36.0	-0.6%	35.8	35.6	0.5%
Retail Trade	113.0	117.6	4.1%	115.4	110.5	4.5%
Finance, Insurance and Real Estate[3]	31.3	33.4	6.7%	32.4	30.7	5.4%
Services	130.8	138.6	6.0%	136.0	127.6	6.6%
Federal Government[4]	39.4	41.6	5.6%	40.3	38.4	4.9%
State Government[4]	33.0	36.4	10.3%	37.4	35.4	5.7%
Local Government[4]	57.5	56.1	-2.4%	62.7	60.4	3.9%
Average Weekly Hours[5]						
Manufacturing	40.8	40.6	-0.5%	40.4	40.1	0.9%
Mining	45.4	41.6	-8.4%	43.9	44.5	-1.3%
Wholesale Trade	35.6	37.5	5.3%	35.9	36.1	-0.5%
Retail Trade	29.2	29.0	-0.7%	28.1	28.7	-2.2%
Amount of Unemployment Compensation (thous. of dol.)	5,587.2	6,267.3	12.2%	7,819.7	6,794.5	15.1%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,382.6	2,395.1	0.5%	2,347.4	2,315.0	1.4%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	187,014.0	179,146.8	-4.2%	124,907.3	122,150.5	2.3%
Sales and Use Tax	71,619.3	69,238.8	-3.3%	45,245.8	47,585.6	-4.9%
Motor Fuel Tax	9,917.0	7,930.5	-20.0%	7,598.0	7,559.9	0.5%
Individual Income Tax	62,133.1	65,021.2	4.6%	37,839.7	36,723.4	3.0%
Corporation Franchise Tax	1,107.1	1,620.9	46.4%	5,637.0	4,510.5	25.0%
Production						
Net Electric Power Utilized (mil. of kwh)	1,189.8	NA	NA	NA	1,111.4	NA
Crude Oil to Refineries (thous. of bbls.)	4,283.0	4,045.3	-5.5%	3,677.1	4,184.3	-12.1%
Crude Oil (thous. of bbls.)	3,557.7	3,157.0	-11.3%	3,408.4	3,274.0[r]	4.1%
Natural Gas (mil. of cu. ft.)	17,090.8	18,740.7	9.7%	18,958.8	16,223.1	16.9%
Coal (thous. short tons)	1,160	919[p]	-20.8%	1,063.3	971.3	9.5%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	888,953	997,799	12.2%	802,639.2	717,773.9	11.8%
Highway Traffic Count Across State Lines	43,472	53,409	22.9%	35,849.8	34,381.2	4.3%
Transient Room Taxes (thous. of dol.)	901.9	709.6	-21.3%	451.7	412.6	9.5%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,965.6	2,189.3	11.4%	1,077.8	970.9	11.0%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	458,813	469,453	2.3%	468,929.8	458,231.7	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	165,458	168,474	1.8%	166,952.1	165,445.3	0.9%
Electric Customers (Residential)	405,451	447,611	10.4%	439,122.5	431,292.9	1.8%
Electric Customers (Commercial)	38,093	44,718	17.4%	42,774.4	41,976.8	1.9%
Natural Gas Customers (Residential & Commercial)	417,331	430,326	3.1%	431,304.8	419,271.9	2.9%
Natural Gas Customers (Industrial)	576	573	-0.5%	568.0	543.2	4.6%

Utah Business Statistics

UTAH DATA	Sept. 1985	Sept. 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	53.2	53.6[fo]	0.8%	52.2	50.9	2.5%
Unemployment Rate	3.2	3.8[r]	18.7%	3.8	3.9	-1.9%
Auth. Permit Construction (thous. of dol.)	13,114.2	15,184.5	15.8%	16,793.2	11,546.2	45.4%
New Dwelling Units (no.)	177	140	-20.9%	226.8	158.5	43.1%
Postal Receipts (thous. of dol.)	318.3	326.4	2.5%	324.4	325.2	-0.2%
Electric Customers (Residential)	32,889	34,652	5.4%	33,995	33,150	2.6%
Electric Customers (Commercial)	2,437	2,589	6.2%	2,521	2,465	2.3%
Natural Gas Customers (Residential)	43,901	46,186	5.2%	45,740	43,686	4.7%
Natural Gas Customers (Industrial)	50	52	4.0%	50	48	3.3%
Telephone Lines in Service (Mt. Bell)(Residential)	50,346	53,610	6.5%	52,026	41,630	25.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,690	10,308	6.4%	9,991	7,961	25.5%
Salt Lake County						
Non-Ag. Employment (thous.)	330.4	337.6[fo]	2.2%	332.4	323.4	2.8%
Unemployment Rate	5.2	4.8[r]	-7.7%	5.3	5.8	-7.9%
Auth. Permit Construction (thous. of dol.)	53,249.9	45,468.1	14.6%	61,626.6	61,326.7	0.5%
New Dwelling Units (no.)	501	445	-11.2%	575.2	698.7	-17.7%
Postal Receipts (thous. of dol.)	9,043.3	6,824.2	-24.5%	7,235.0	6,687.1	8.2%
Electric Customers (Residential)	223,069	230,814	3.5%	229,748	220,080	4.4%
Electric Customers (Commercial)	18,583	19,322	4.0%	19,138	18,350	4.3%
Natural Gas Customers (Residential)	201,666	209,174	3.7%	210,950	203,543	3.6%
Natural Gas Customers (Industrial)	260	255	-1.9%	257	250	2.8%
Telephone Lines in Service (Mt. Bell)(Residential)	217,660	223,604	2.7%	221,326	215,506	2.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	106,324	108,569	2.1%	107,394	108,180	-0.7%
Utah County						
Non-Ag. Employment (thous.)	71.2	70.9[fo]	-0.4%	71.4	70.0	2.0%
Unemployment Rate	5.4	7.1[r]	31.5%	5.9	6.6	-10.9%
Auth. Permit Construction (thous. of dol.)	18,139.4	7,572.1	-58.3%	9,499.3	10,558.3	-10.0%
New Dwelling Units (no.)	101	72	-28.7%	98.3	81.5	20.7%
Postal Receipts (thous. of dol.)	866.5	837.5	-3.3%	910.7	852.6	6.8%
Electric Customers (Residential)	47,820	50,998.0	6.6%	NA	48,044.1	NA
Electric Customers (Commercial)	5,658	6,116.0	8.1%	NA	5,653.9	NA
Natural Gas Customers (Residential)	57,798	59,077	2.2%	59,348.3	58,362.2	1.7%
Natural Gas Customers (Industrial)	71	72	1.4%	71.1	68.7	3.5%
Telephone Lines in Service (Mt. Bell)(Residential)	62,114	64,076	3.2%	61,974.2	60,974.3	1.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,039	16,076	6.9%	15,648.0	14,689.9	6.5%
Weber County						
Non-Ag. Employment (thous.)	57.8	59.7[fo]	3.3%	58.9	56.4	4.5%
Unemployment Rate	4.4	5.4[r]	22.7%	5.4	6.2	-13.1%
Auth. Permit Construction (thous. of dol.)	10,063.7	14,193.8	41.0%	9,704.0	8,254.3	17.6%
New Dwelling Units (no.)	92	109	18.5%	96.6	69.2	39.6%
Postal Receipts (thous. of dol.)	596.8	614.4	2.9%	606.9	565.9	7.3%
Electric Customers (Residential)	50,491	51,782	2.6%	51,516.1	50,490.0	2.0%
Electric Customers (Commercial)	4,629	4,742	2.4%	4,717.5	4,590.2	2.8%
Natural Gas Customers (Residential)	46,529	47,605	2.3%	47,737.8	46,809.2	2.0%
Natural Gas Customers (Industrial)	87	87	0.0%	86.9	78.6	10.9%
Telephone Lines in Service (Mt. Bell)(Residential)	45,003	45,406	0.9%	45,335.2	44,862.0	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,468	10,550	0.8%	10,553.0	10,304.9	2.4%

[r] Revised [fo] Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah. Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U.S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1. Obtained from F.W. Dodge Statistics
2. Obtained from Utah Construction Report
3. Includes services by nonprofit and religious institutions
4. Includes public schools and college institutions
5. Contract construction data are no longer available

Bureau of Economic and
Business Research
University of Utah
Salt Lake City, Utah 84112
Return Postage Guaranteed
(Non-Profit Organization)

Non-Profit Org.
U.S. Postage Paid

Permit No. 1529
Salt Lake City, Utah

SRI ACQUISITION
CONGRESSIONAL
INFORMATION SERVICE, INC.
4520 EAST WEST HIGHWAY
BETHESDA, MARYLAND 20814

NATIONAL DATA

	Sept. 1985	Sept. 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,016.9	4,241.1	5.6%	4,156.9	3,936.9	5.6%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,309.9	3,511.6	6.1%	3,443.0	3,251.4	5.9%
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.9	125.2	0.2%	125.0	123.9	0.8%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	389.5	380.5[a]	-2.3%	380.8	378.9	0.5%
Index of Leading Indicators (1967=100)	169.6	179.5	5.8%	176.1	166.7	5.6%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	324.5	330.2	1.8%	327.3	319.4	2.5%
CPI-U (All Urban Consumers) Food & Beverages	302.1	315.1	4.3%	316.2	300.2	5.3%
CPI-U (All Urban Consumers) Housing	353.8	363.7	2.8%	358.4	346.4	3.5%
CPI-U (All Urban Consumers) Transportation	319.7	302.2	-5.5%	315.0	318.2	-1.0%
CPI-U (All Urban Consumers) Medical Care	408.3	439.7	7.7%	425.5	396.8	7.3%
CPI-U (All Urban Consumers) Energy	432.6	360.6	-16.6%	390.8	425.5	-8.2%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	290.2	287.5	-0.9%	291.2	292.7	-0.5%
GNP Price Deflator (1982=100) (qtly.)	112.1	115.0	2.6%	113.9	110.9	2.7%
Employment (seasonally adjusted)						
Civilian Labor Force (mil.)	107.5	118.2	10.0%	115.2	106.6	8.0%
Total Employed Persons (mil.)	115.8	109.8	-5.2%	111.0	115.0	-3.4%
Unemployment Rate	7.1	7.0	-1.4%	7.0	7.3	-3.0%
Construction						
Total Construction (mil. of dol.)	19,891.6	19,851.9	-0.2%	18,939.1	18,283.1	3.6%
Residential	9,067.3	9,950.3	9.7%	9,319.9	8,453.4	10.3%
Nonresidential	7,299.9	6,876.1	-5.8%	6,318.9	6,518.4	-3.1%
Non-Building	3,524.4	3,025.5	-14.2%	3,300.2	3,311.3	-0.3%
New Dwelling Units (no.)	144,358	141,326	-2.1%	141,081.8	139,492.8	1.1%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.08	5.19	-26.7%	6.4	7.9	-19.2%
Long Term (30-year Treasury bond yields)	10.67	8.08	-24.3%	8.7	11.1	-21.4%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.50	7.50	-21.1%	8.8	10.5	-16.0%
Mortgage Rates (new homes)	10.68	9.78	-8.4%	10.1	11.5	-12.4%

na - Not Available [a] Anticipated

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F.W. Dodge Report, McGraw-Hill: National Construction Data.

Survey of Current Business, U.S. Department of Commerce: New Home Mortgage Rates.

Utah Labor Market Report, Utah Department of Employment Security: Consumer Price Indexes, Producer Price Indexes.

Chase N. Peterson, *President, University of Utah*
Iver E. Bradley, *Dean, Graduate School of Business*

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

R. Thayne Robson, Director
Frank C. Hachman, Associate Director

graduate school
of business
bureau of economic and
business research
university of utah

STAFF OF THE BUREAU OF ECONOMIC AND BUSINESS RESEARCH

Office Staff

Mari Lou Wood, Office Manager
Cathy Crawford, Administrative Assistant
Diana S. Gillam, Associate Accountant
Lee Carberry, Administrative Secretary
Gaylene Roethal, Administrative Secretary

Research Analysts, Research Assistants and Programmers

James Austin
Randa Brinkerhoff
Jon Crispin
David Hold
Doug Marvelon
Austin Smith
Holly Southwick
James Wood

Senior Research Economists

Boyd L. Fjeldsted
Rodger Weaver

Production Staff

James B. Peters, Graphics